

## **AMENDMENTS TO THE SPECIFICATION**

Please replace the paragraph found on Page 12, Lines 4-23 with the following paragraph rewritten in amendment format:

Conventional pressure swing adsorption (PSA) systems are very large and consist of a minimum of two separate adsorption vessels complete with numerous valves and manifolds. In a two-vessel system, one vessel would be in the adsorption mode and the second vessel would be in various stages of depressurization or blowdown, purge, and pressurization. Many commercial hydrogen PSA cycles use four beds, with one bed in the production stage at any given time, and the other three beds in various stages of equalization, blowdown, purge, and pressurization. See, for example U.S. Patent No. ~~3,453,418~~ 5,646,305 issued to Wagner; and U.S. Patent No. 3,564,816 issued to Batta, each of the disclosures of which is incorporated herein by reference in its entirety. Also, some commercial hydrogen PSA cycles use twelve beds, with four beds in the production stage at any given time, and the other eight beds in various stages of equalization, blowdown, purge, and pressurization. See for example U.S. Patent No. ~~3,846,849~~ 5,958,109 issued to Fuderer *et al.*, the disclosure of which is incorporated herein by reference in its entirety. These PSA cycle stages are described in detail below. It is well known that PSA systems with more than two vessels exhibit higher hydrogen recoveries and reduced power by incorporating pressure equalization steps. These multiple, staged fixed bed PSA systems, however, contain complex valve arrangements and are non-continuous due to the cycling of these valves.